

# Los Angeles County Health Survey

A health assessment tool for the most populous county in the United States

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Health Assessment Unit

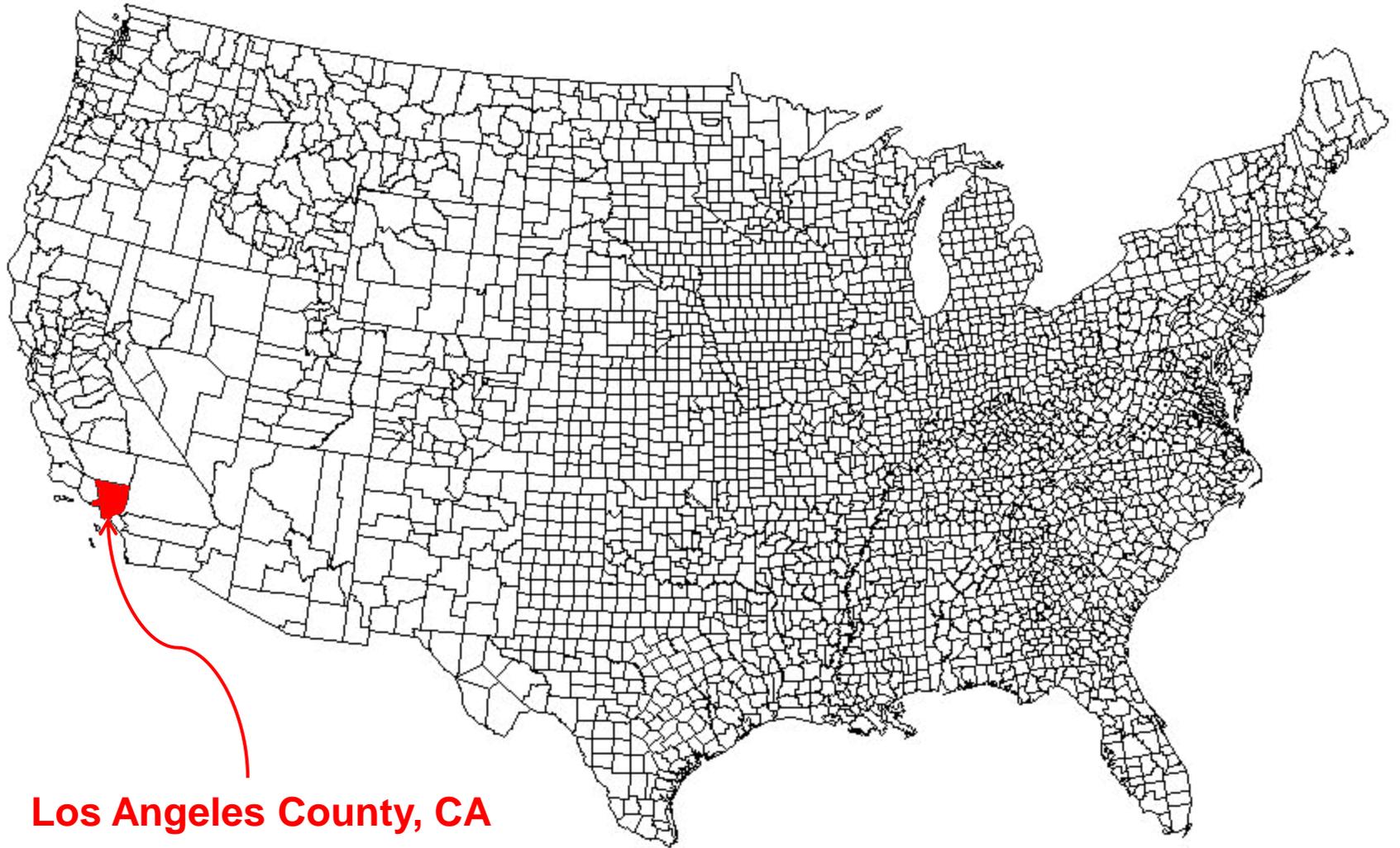


# Presentation Overview

- **Background**
- **Importance of local data collection**
- **Survey intro:**
  - objectives, methodology, content, limitations
- **Data examples**
- **Data dissemination & Use in Public Health Practice**
- **Challenges & Conclusions**



# Map of The United States by County

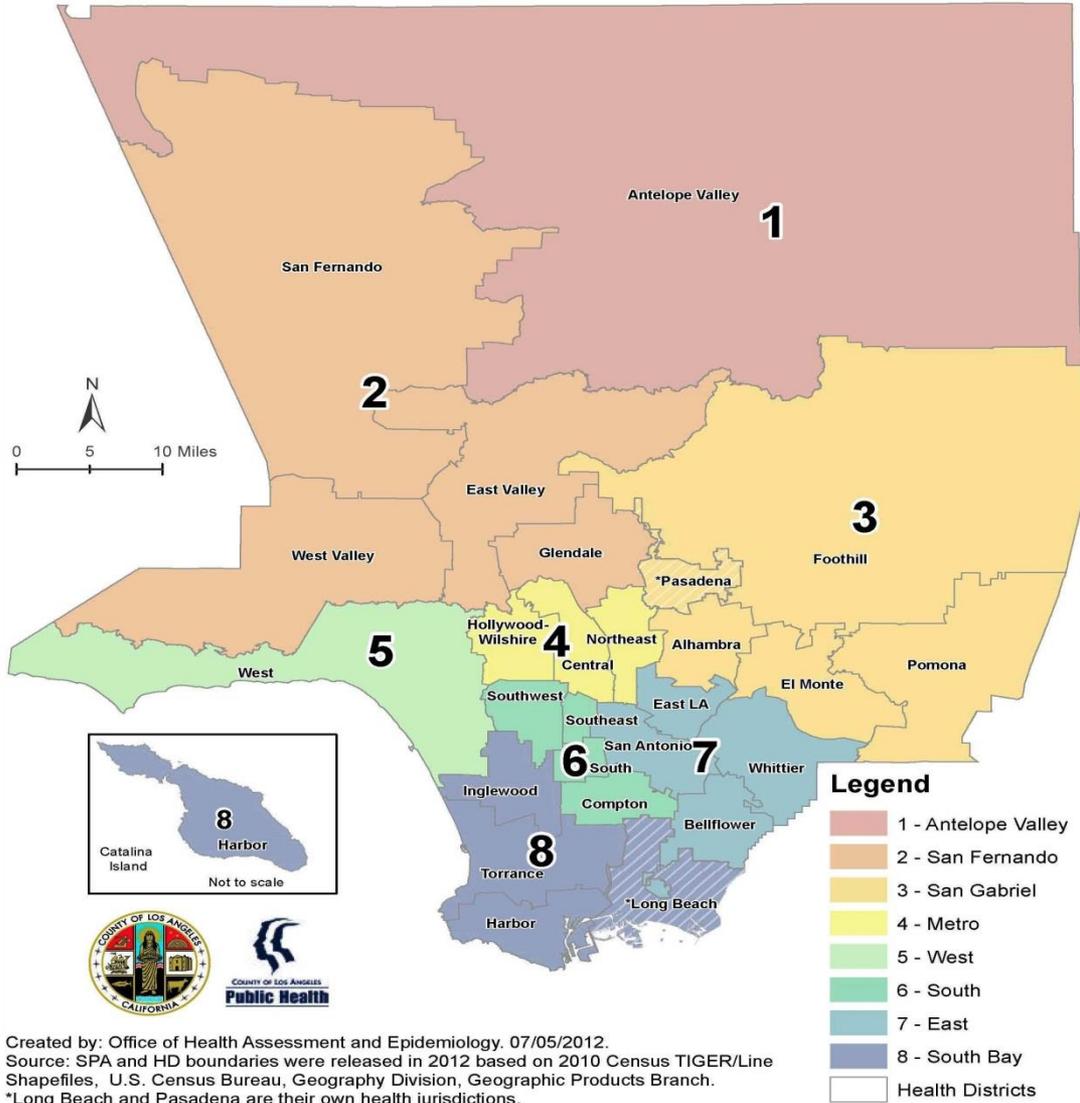


**Los Angeles County, CA**



# Los Angeles County (LAC)

## Los Angeles County Department of Public Health Service Planning Areas (SPA) and Health Districts (HD) - 2012



– 9.9 Million residents

– 4,058 square miles  
(10,510 km<sup>2</sup>)

<http://quickfacts.census.gov/qfd/states/06/06037.html>

– 8 Service Planning Areas

– 26 Health Districts

Created by: Office of Health Assessment and Epidemiology, 07/05/2012.  
Source: SPA and HD boundaries were released in 2012 based on 2010 Census TIGER/Line Shapefiles, U.S. Census Bureau, Geography Division, Geographic Products Branch.  
\*Long Beach and Pasadena are their own health jurisdictions.



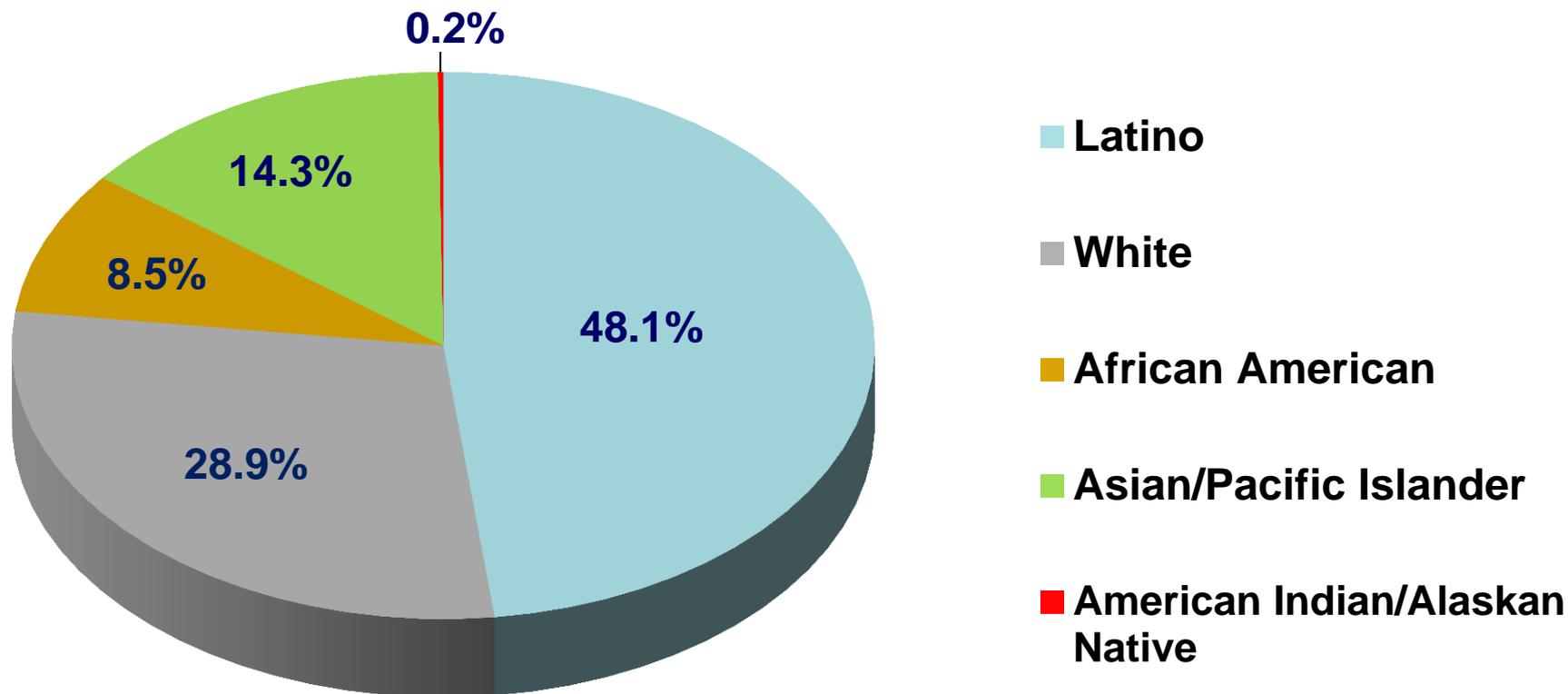
# Populations of LAC, SPAs and Individual US States by Rank

1 CALIFORNIA (37.7 Million)	31 IOWA
2 TEXAS	32 MISSISSIPPI
3 NEW YORK	33 ARKANSAS
4 FLORIDA	34 KANSAS
5 ILLINIOS	35 UTAH
6 PENNSYLVANIA	36 NEVADA
7 OHIO	37 SPA 2 - SAN FERNANDO (2.1 Million)
8 MICHIGAN	38 NEW MEXICO
9 LA COUNTY (9.9 Million)	39 WEST VIRGINIA
10 Georgia	40 NEBRASKA
11 NORTH CAROLINA	41 SPA 3 - SAN GABRIEL (1.8 Million)
12 NEW JERSEY	42 IDAHO
13 VIRGINIA	43 SPA 8 - SOUTH BAY (1.5 Million)
14 WASHINGTON	44 HAWAII
15 MASSACHUSETTS	45 MAINE
16 INDIANA	46 NEW HAMPSHIRE
17 ARIZONA	47 SPA 7 - EAST (1.3 Million)
18 TENNESSEE	48 SPA 4 - METRO (1.1 Million)
19 MISSOURI	49 RHODE ISLAND
20 MARYLAND	50 SPA 6 - SOUTH (1.0 Million)
21 WISCONSIN	51 MONTANA
22 MINNESOTA	52 DELAWARE
23 COLORADO	53 SOUTH DAKOTA
24 ALABAMA	54 ALASKA
25 SOUTH CAROLINA	55 NORTH DAKOTA
26 LOUISIANA	56 SPA 5 - WEST (0.6 Million)
27 KENTUCKY	57 VERMONT
28 OREGON	58 DISTRICT OF COLUMBIA
29 OKLAHOMA	59 WYOMING
30 CONNECTICUT	60 SPA 1 - ANTELOPE VALLEY (0.4 Million)

**SOURCE:** US Bureau of the Census, Population Division, Annual Estimates of the Population on July 1, 2011; released December 2012. July 1, 2011 Population Estimates, prepared for Urban Research, LA County ISD, released 10/15/2012

# Diversity

## Los Angeles County Race/Ethnicity, 2010



# Importance of Data Collection

&

# Survey Information



# Importance of Data Collection and Analysis

- **Assessment is a core public health function**
  - Monitoring population health
  - Mitigate community problems
- **Data increasingly used in public health to drive**
  - Evidence-based practice
  - Policy decisions
  - Program planning and evaluation
- **Community health improvement efforts**
  - Help communities understand issues
  - Health education & Outreach
  - Acquire funding through grants



# Los Angeles County Health Survey (LACHS)

- Historically, **Infectious disease** posed the greatest threat to public health and was main surveillance focus
  - **Local jurisdictions lacked data on other important factors leading to morbidity and mortality**
    - Chronic disease prevalence
    - Health behaviors
    - Health related quality of life
    - Access to health care and preventive services
    - Public opinion on health issues
- **LAC Department of Public Health began LACHS in 1997 for more comprehensive health assessment**



# Key Objectives of LACHS

- **Obtain reliable estimates** for health indicators
- **Identify disparities**
- **Track health trends**
- **Compare health of LA County residents** with state and national health objectives  
(*e.g. Healthy People 2020*)



# LACHS Methodology

- Population-based **Random digit–dial (RDD)** telephone survey
- **6 Cycles Conducted:** 1997, 1999, 2002, 2005, 2007 & 2011
- **Cellphone** component (New to 2011 cycle)
- **6 Languages:** English, Spanish, Mandarin, Cantonese, Vietnamese, Korean



# LACHS Methodology

- **Statistical Weighting**

- Generalizability: reflect non-institutionalized LAC population
- Accounts for differences in the probability of selection of households
- Aligns the survey results to known geographic and demographic characteristics

- **The process in a nutshell**

- Each individual record (*based on selection probability*)
  - **Household weight**
  - **Population weight**
- then project the data files (*using Census info*)
  - **residential housing units**
  - **non-institutionalized adults and children**



# 2011 LACHS (Landline and Cell Phone Sample Frames)

- Random selection using a dual overlapping design
  - RDD Landline sample frame
  - Cross-sectional, RDD cell phone sample frame
- Design was considered "**overlapping**" because households that have both landline and cell phone service have a probability of being selected from both frames
- Degree of "overlap" accounted for in the weight calculations
- Telephone numbers from each frame were managed independently



# LACHS Components

## – **Adult (18+ years old):**

- ~8,000 respondents
- One adult randomly selected per household
- **8 Adult subsamples:**
  - Mini-surveys administered to a subset of ~1000 randomly selected adults from the main sample

## – **Child:**

- ~6000 parents/guardians/caregivers of children 0-17 years old



# Adult Survey Content

- Chronic Disease Prevalence
- Functional Status & Health Related Quality of Life
- Health Behaviors
- Health & Dental Insurance
- Access to Care & Preventive Services
- Built Environment
- Emergency Preparedness



# Child Survey Content

- Health Status and Conditions
- Child Health Insurance & Access to Care
- Child Care
- Child Behaviors and Routines
- Parental Behaviors/Perceptions
- Preconception to Postpartum



# 2011 Cooperation & Response Rates<sup>θ</sup>

## Cooperation Rate:

- **Adult Survey**
  - 59% - landline
  - 71% - cell phone
  - **66% - combined**
  
- **Child Survey**
  - 62% - landline
  - 72% - supplemental landline
  - 59% - cell phone
  - **64% - combined**

## Response Rate:

- **Adult Survey**
  - 35% - landline
  - 23% - cell phone
  - **28% - combined**
  
- **Child Survey**
  - 22% - landline
  - 30% - supplemental landline
  - 14% - cell phone
  - **20% - combined**

<sup>θ</sup> - Calculated following guidelines provided by AAPOR' Standard Definitions  
[[http://www.aapor.org/AM/Template.cfm?Section=Standard\\_Definitions2&Template=/CM/ContentDisplay.cfm&ContentID=3156](http://www.aapor.org/AM/Template.cfm?Section=Standard_Definitions2&Template=/CM/ContentDisplay.cfm&ContentID=3156)]  
and Cell Phone Task Force [[http://www.aapor.org/Cell\\_Phone\\_Task\\_Force\\_Report.htm](http://www.aapor.org/Cell_Phone_Task_Force_Report.htm)].



# Limitations

- **Self-reported data**
- **Temporal ambiguity**
- **Time constraints: only ~30 minutes**
- **Omits people**
  - Without telephones (eg. homeless)
  - Living in some group quarters (mental institutions, jails)
- **Low response rates to telephone surveys**

Still able to get reliable data from a representative sample

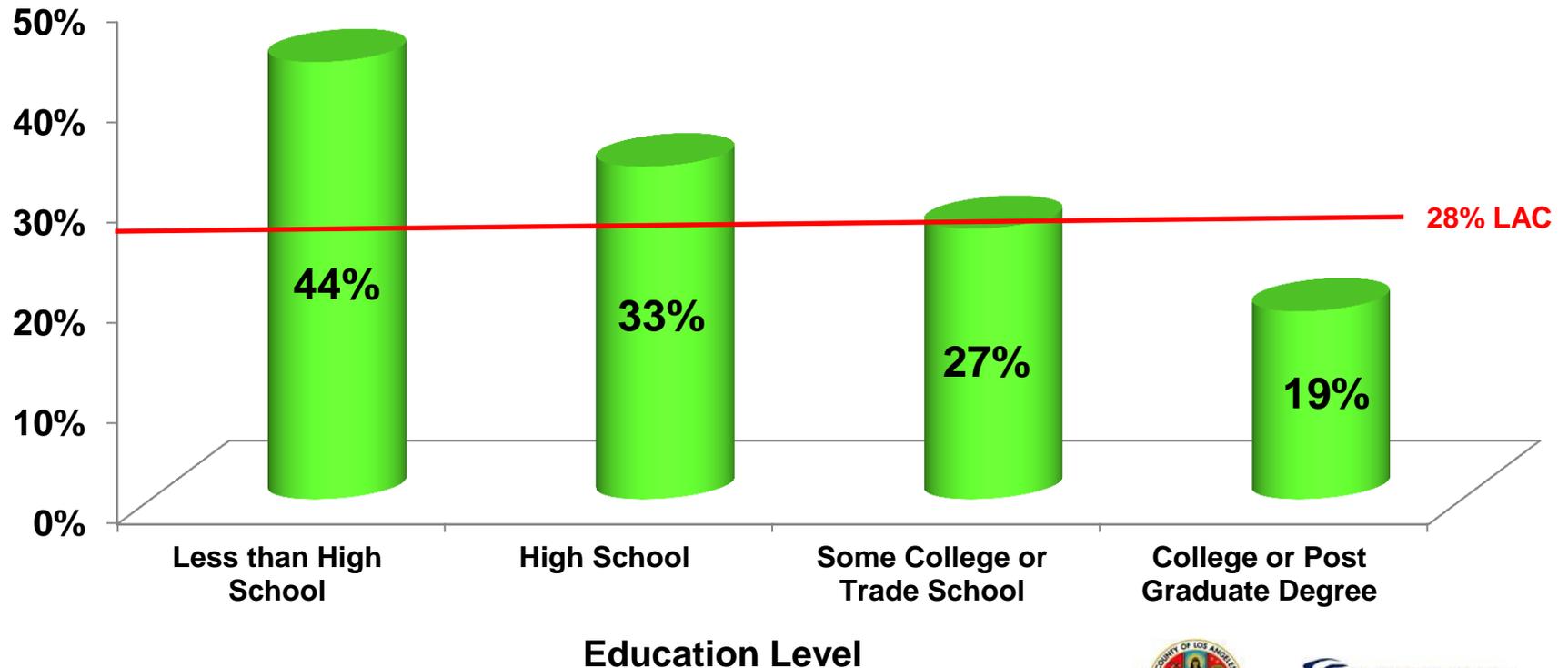


# Data Examples

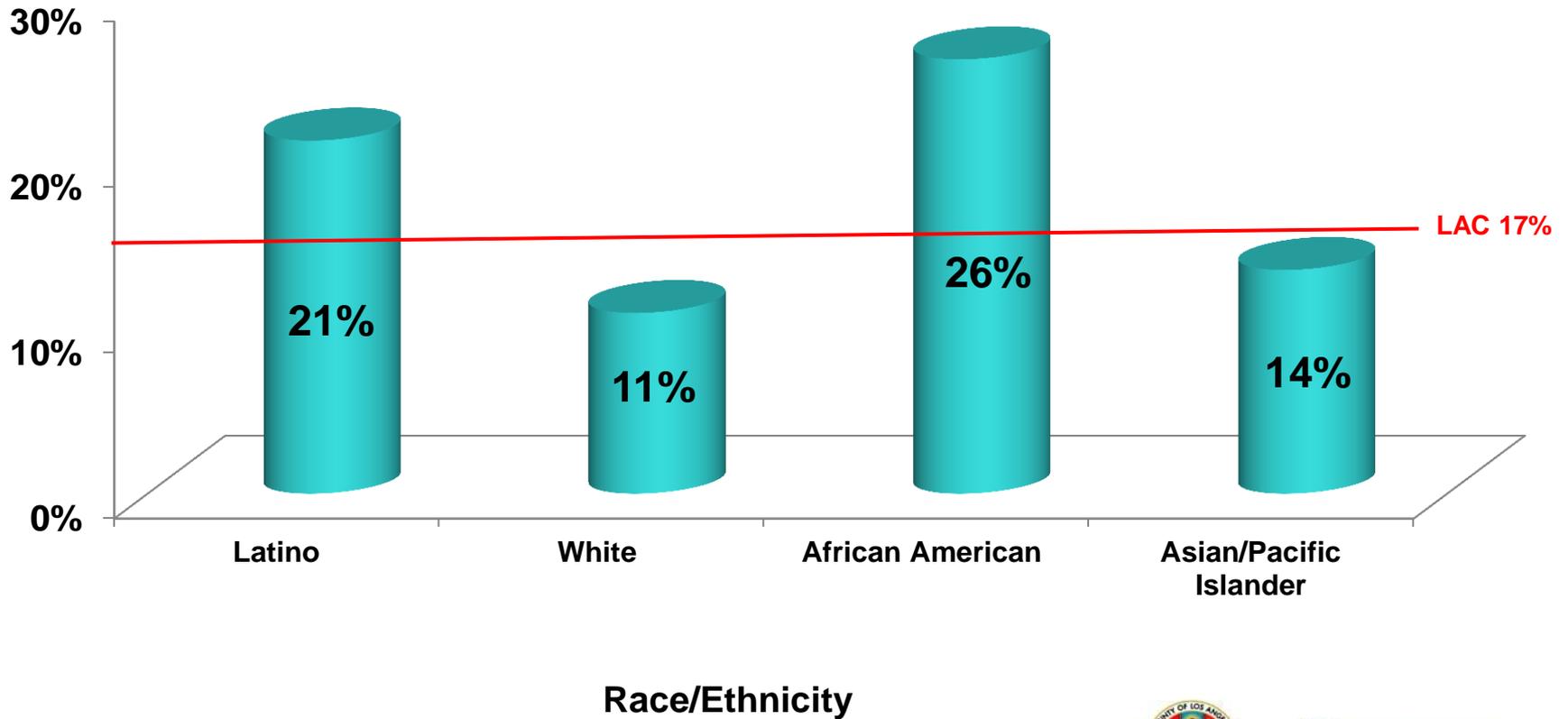


# Social & Economic Determinants of Health

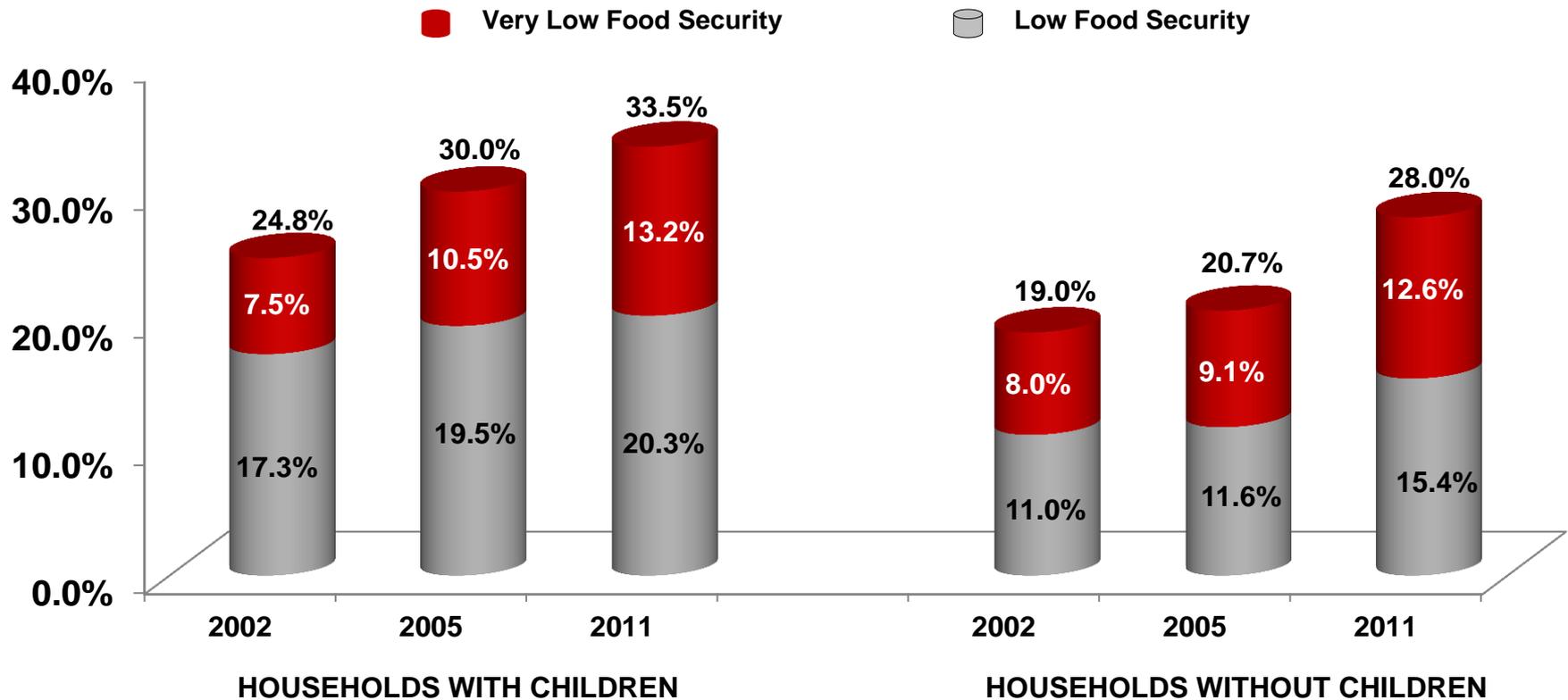
**Percent of Employed Adults Who Have Had To Decrease Their Working Hours or Their Employer Decreased Their Working Hours in the Past 2 Years by Education, 2011**



## Percent of Adults Who Have Been Late or Unable to Pay Their Mortgage/Rent in the Past 2 Years by Race Ethnicity, 2011



## Percent of Food Insecure<sup>‡</sup> (Low and Very Low) Households <300% FPL With and Without Children, 2002-2011

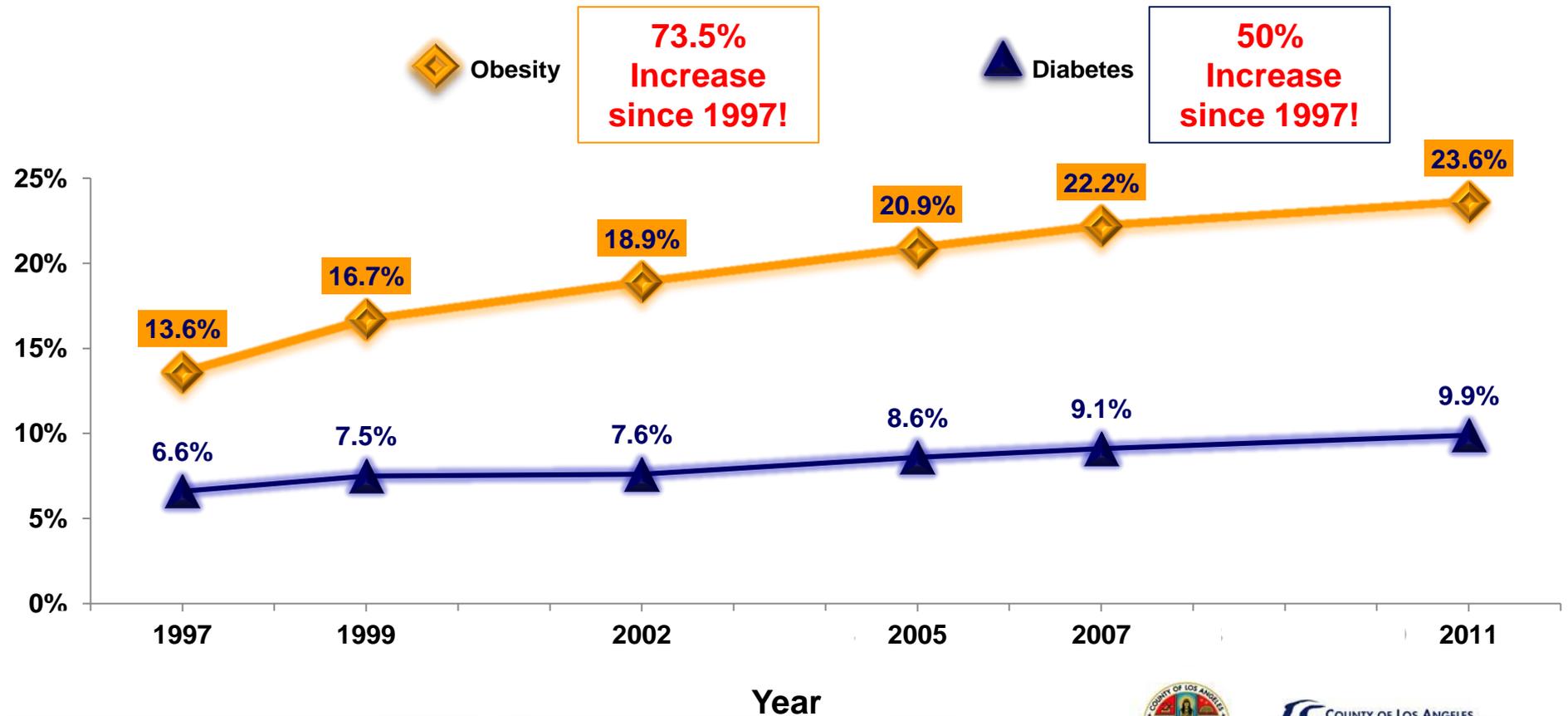


<sup>‡</sup> Food insecurity is a scaled variable based on a series of 5 questions.

REFERENCE: SJ Blumberg, et al. The effectiveness of a short form of the Household Food Security Scale. Am J Public Health 1999 89: 1231-1234

# Chronic Conditions

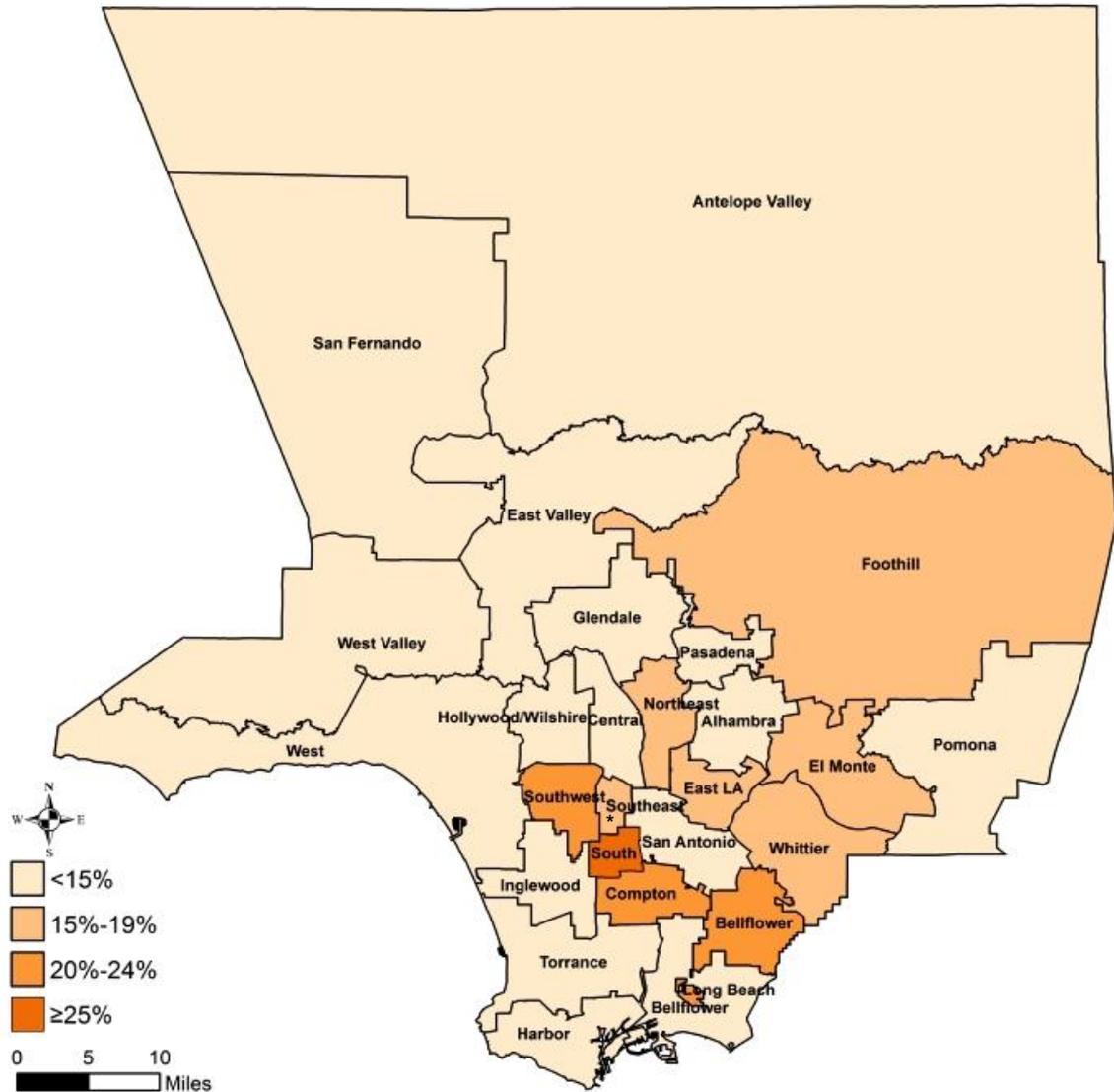
Trends in Diabetes† and Obesity Among Adults in LA County



† Age Adjusted Percentage according to the 2000 US Standard Population aged 18 years and older



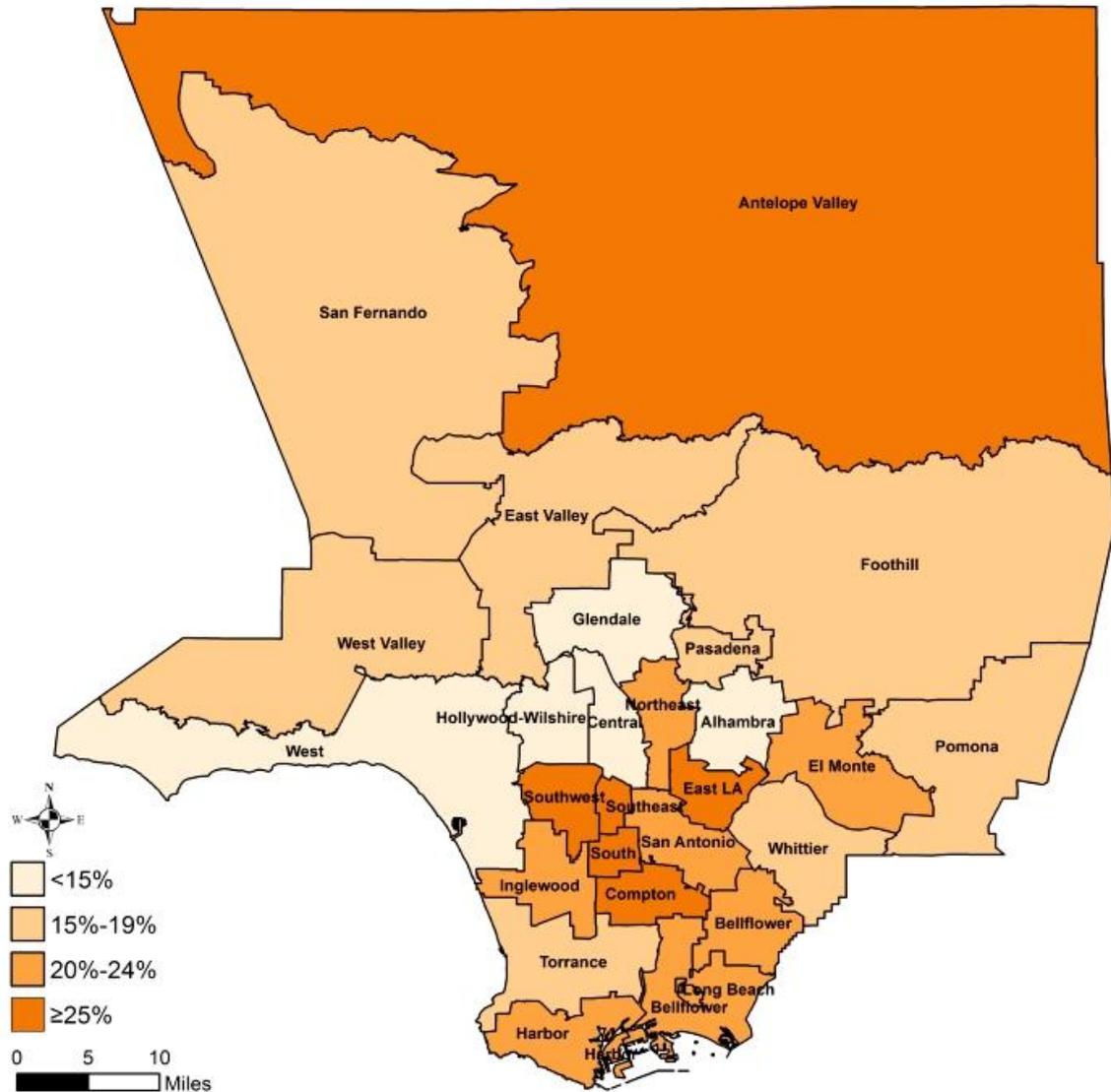
# Adult Obesity by Health District 1997



\* The estimate is statistically unstable (relative standard error  $\geq 23\%$ ).  
Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.  
Source: 1997 Los Angeles County Health Survey.

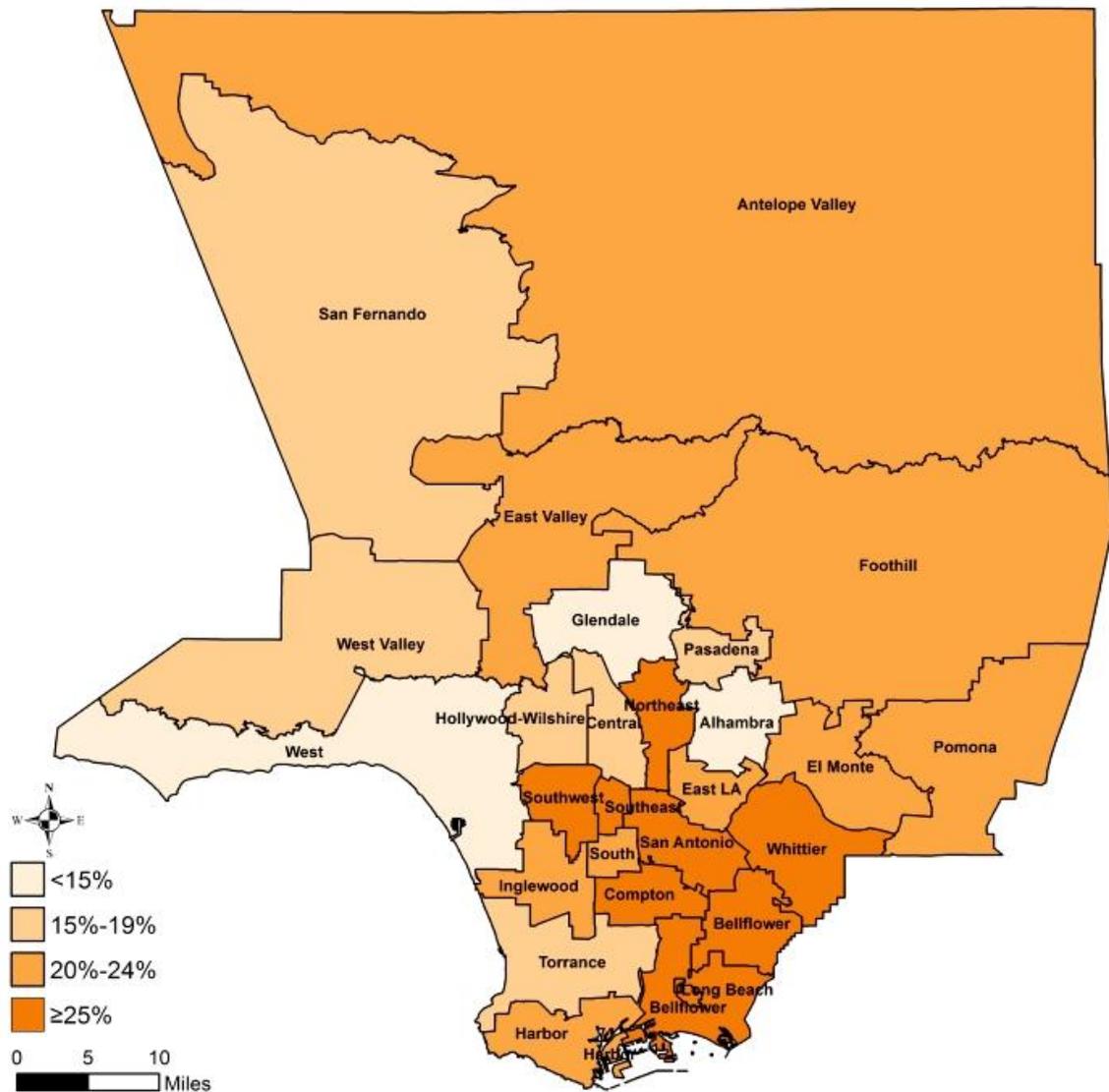


# Adult Obesity by Health District<sup>§</sup> 2002

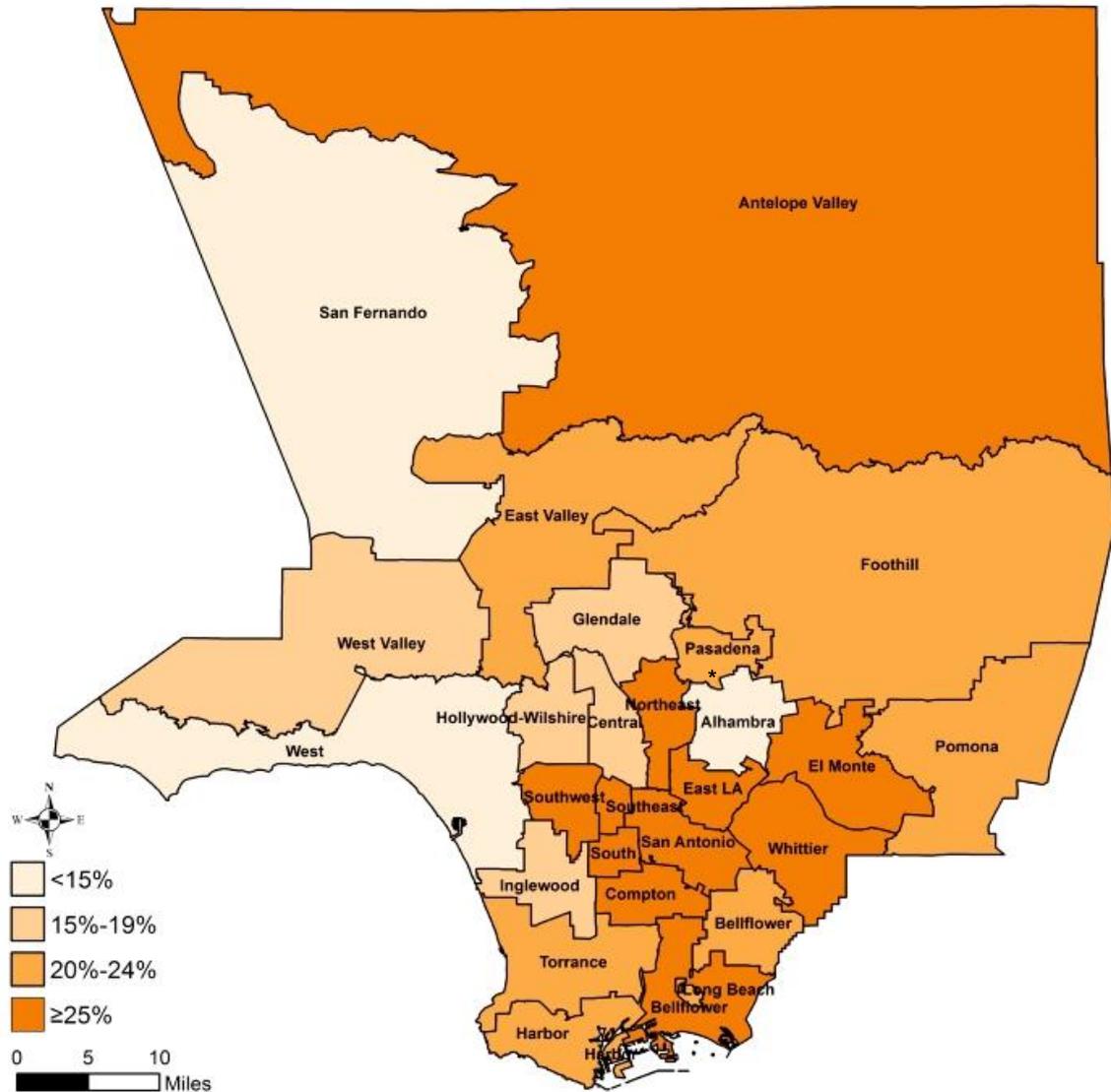


<sup>§</sup> Health District boundaries were adjusted in 2000 following Census 2000 redistricting. Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology. Source: 2002 Los Angeles County Health Survey.

# Adult Obesity by Health District 2005

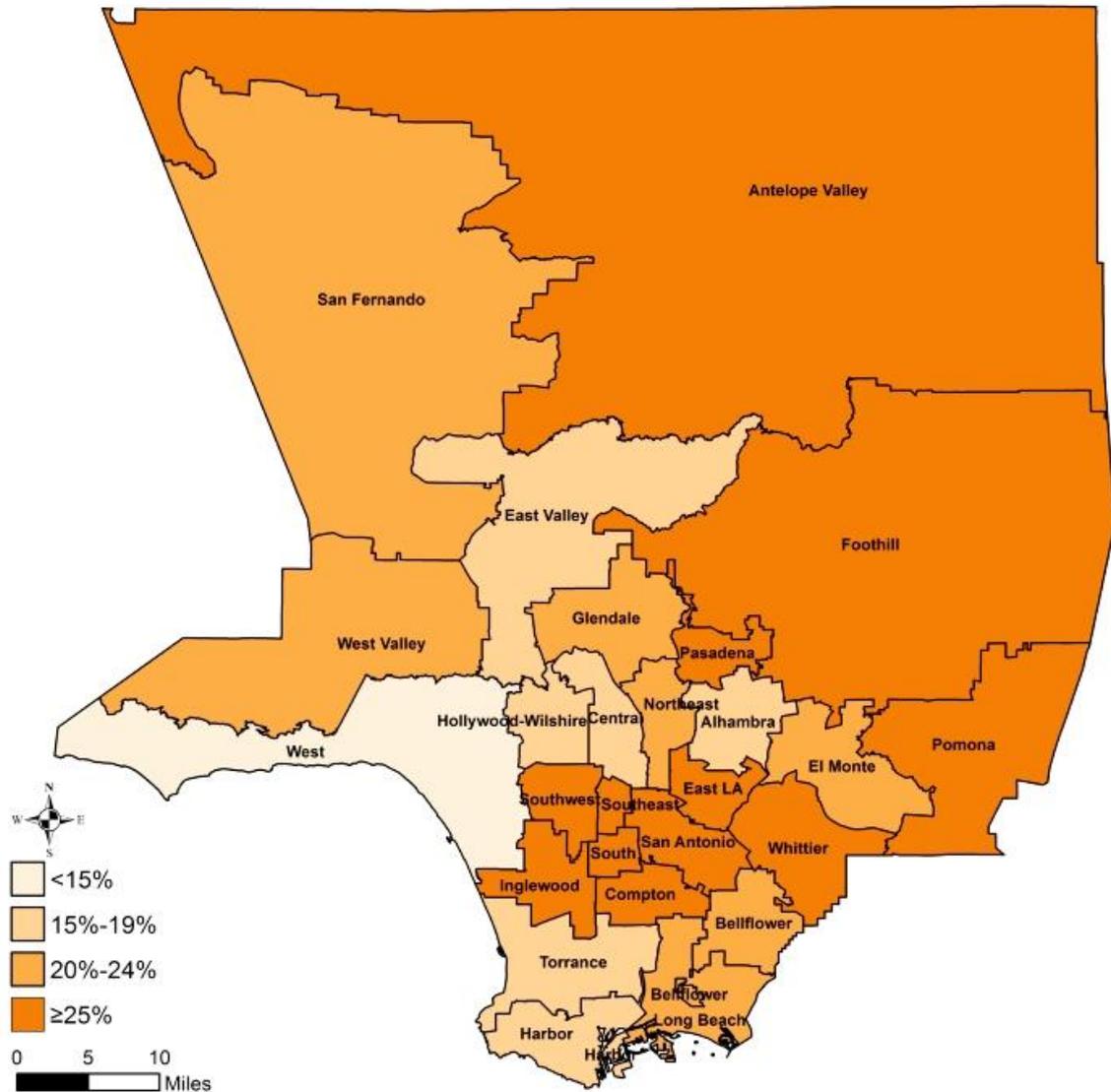


# Adult Obesity by Health District 2007



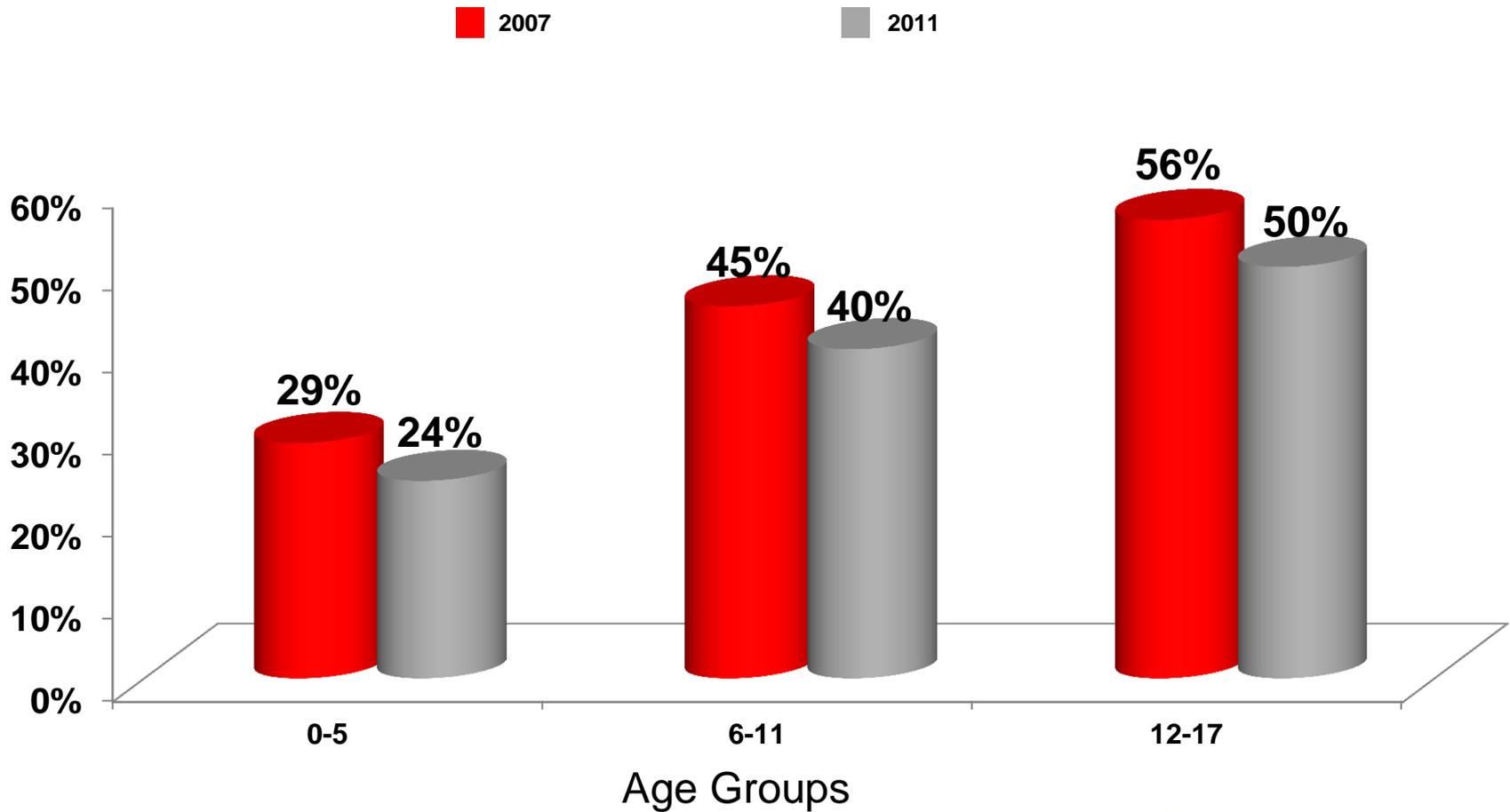
\* The estimate is statistically unstable (relative standard error  $\geq 23\%$ ).  
Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology.  
Source: 2007 Los Angeles County Health Survey.

# Adult Obesity by Health District § 2011



# Health Behaviors

## Sugar Sweetened Beverage Consumption<sup>∞</sup> Among Children, by Age Group 2007-2011

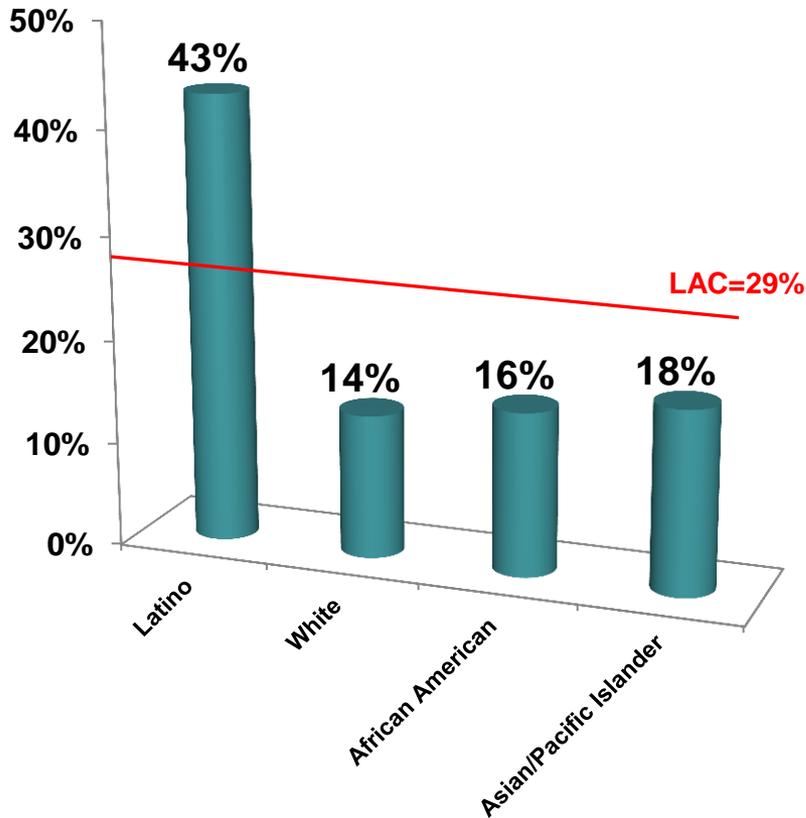


<sup>∞</sup> Drinks at least one soda or sugar sweetened beverage per day

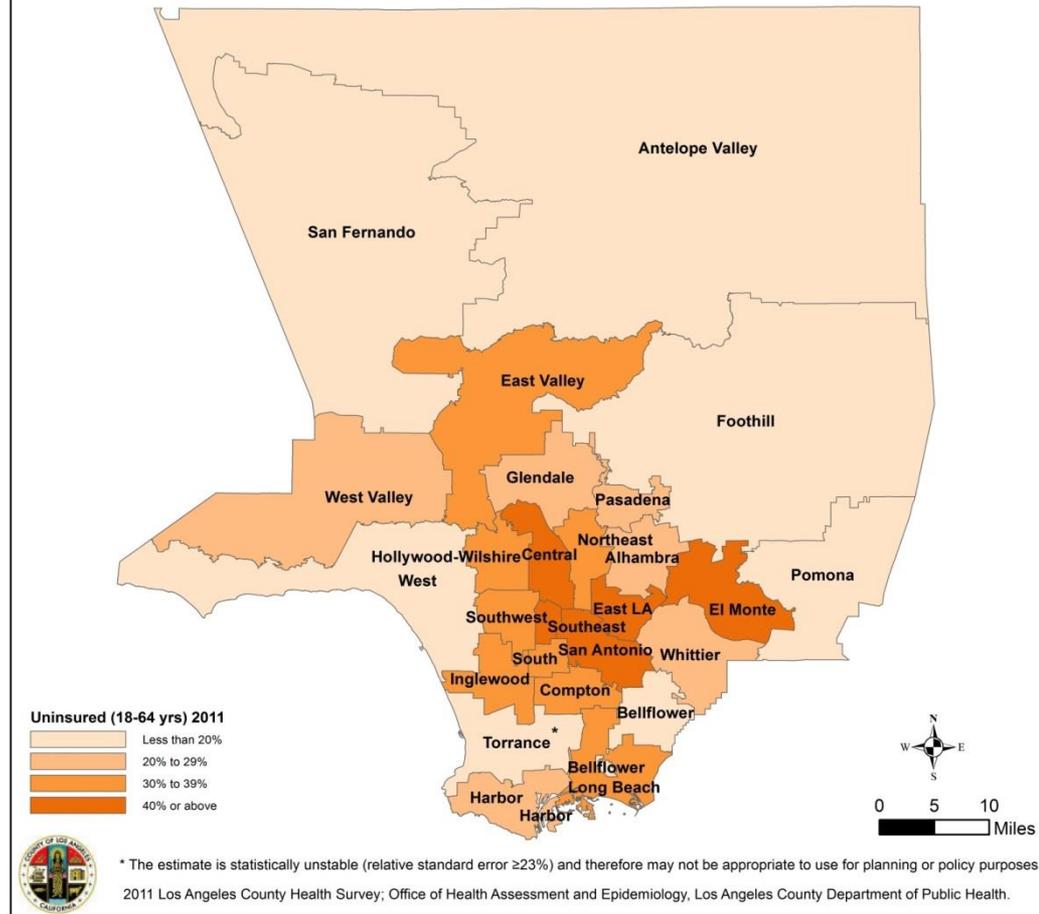


# Insurance & Access to Care

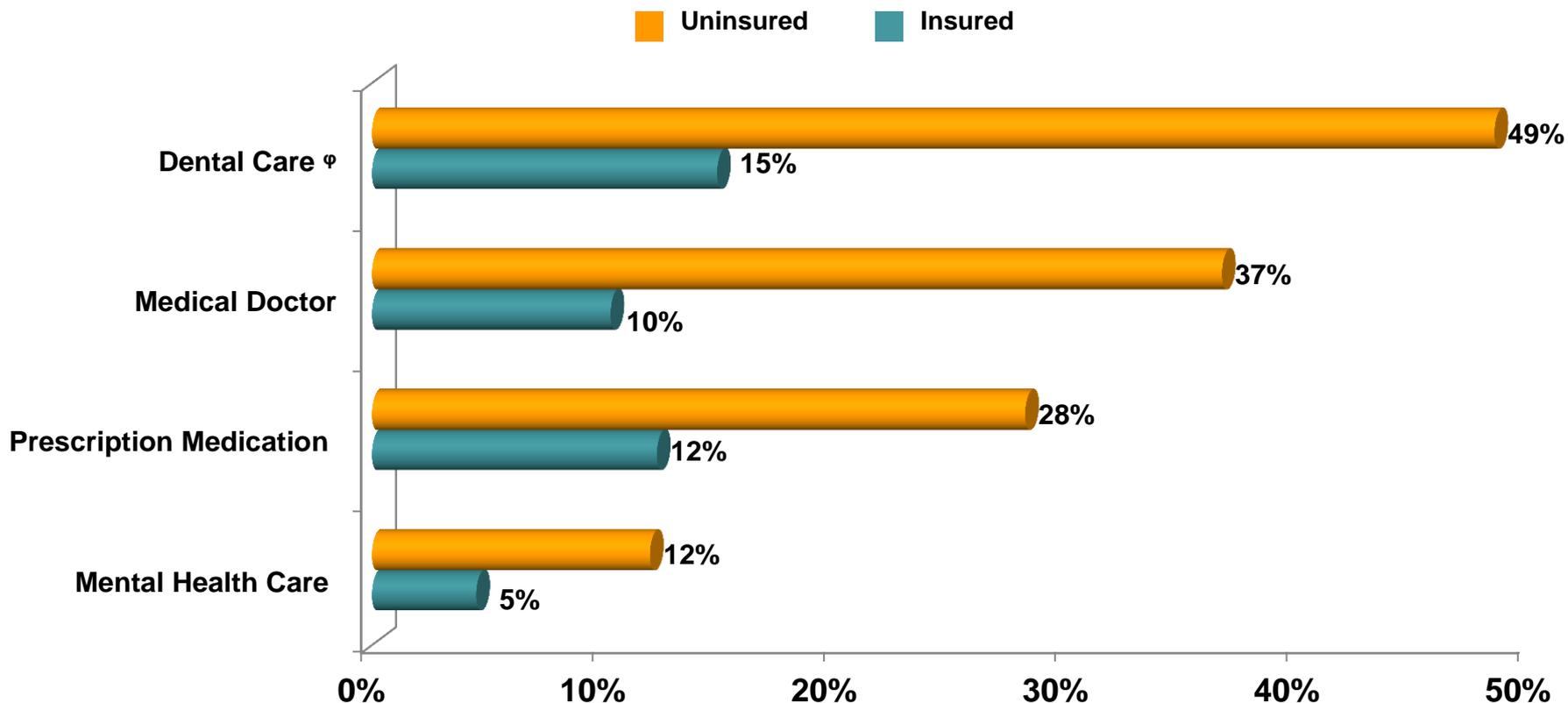
## Uninsured (18-64 yrs) by Race/Ethnicity, 2011



## Percent of Uninsured Non-Elderly Adults (18-64 years old) by Los Angeles County Health Districts, 2011



## Cost as a Barrier to Accessing Care Among Adults (18-64 years) by Insurance Status, 2011



$\phi$  Analyzed by dental insurance status



**Data Dissemination**

**&**

**Use in Public Health Practice**



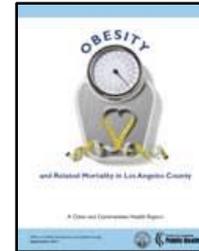
# Who Uses LACHS Data?

- **LAC Departments:**  
Public Health, Health Services, Mental Health
  - Program planning and evaluation
  - Grant proposals
- **Other government agencies**
- **Health advocates**
  - Community based organizations
  - Non-profit health organizations
  - Healthcare providers, Community clinics
- **Researchers:**
  - Academic, Health, and Health policy professionals
  - Students

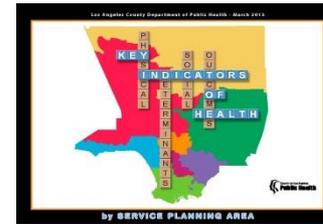


# Reports

- Cities & Communities Reports



- Key Indicators of Health Reports



- LA Health Briefs



- Health Indicators for Women Reports



# Journal Publications

L.A County Department of Public Health

lacounty.gov

County Directory of Information & Services | Public Alerts | Public Information | County Contact Information



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Publications			
Year <input type="text"/>			
Title	Author(s)	Year	
<b>PUBLICATIONS</b>			
Declines in Sugar-Sweetened Beverage Consumption Among Children in Los Angeles County, 2007 and 2011	Simon PA, Lightstone AS, Baldwin S, Kuo T, Shih M, Fielding JE	2013	<input type="button" value="View"/>
Perceptions of HIV/AIDS in One's Community Predict HIV Testing	Shi L, Kanouse D, Baldwin S, Kim J	2012	<input type="button" value="View"/>
Effective Birth Control Use among Women at Risk for Unintended Pregnancy in Los Angeles, California	Phares TM, Cui Y, Baldwin S	2012	<input type="button" value="View"/>
Small Area Estimation Reveal High Cigarette Smoking Prevalence in Low-Income Cities of Los Angeles County	Cui Y, Baldwin SB, Lightstone AS, Shih M, Yu H, Teutsch S	2011	<input type="button" value="View"/>
Human Papillomavirus Vaccine Among Adult Women: Disparities in Awareness and Acceptance	Cui Y, Baldwin SB, Wiley DJ, Fielding JE	2010	<input type="button" value="View"/>
Is Incarceration a Contributor to Health Disparities? Access to Care of Formerly Incarcerated Adults	Kulkarni SP, Baldwin S, Lightstone AS, Gelberg L, Diamant AL	2010	<input type="button" value="View"/>



COUNTY OF LOS ANGELES  
Public Health

# Data Tables

## Percent of Adults (18+ years old) Who Reported Eating 5 or More Servings of Fruit/Vegetables in the Past Day.

Los Angeles County Health Survey, 2011.

Ate 5+ Servings of Fruits/Vegetables	Percent	95% CI	Estimated #
LA County	16.2%	15.1 - 17.4	1,141,000
<b>Gender</b>			
Male	12.5%	10.9 - 14.0	423,000
Female	19.8%	18.2 - 21.4	718,000
<b>Age Group</b>			
18-24	11.8%	8.8 - 14.8	115,000
25-29	17.5%	13.0 - 22.1	128,000
30-39	17.5%	14.6 - 20.3	241,000
40-49	17.7%	15.1 - 20.2	240,000
50-59	15.0%	12.8 - 17.3	176,000
60-64	15.2%	12.2 - 18.3	65,000
65+	17.9%	15.5 - 20.2	176,000
<b>Race/Ethnicity</b>			
Latino	13.0%	11.4 - 14.6	399,000
White	21.0%	19.2 - 22.9	468,000
African American	12.4%	9.1 - 15.7	75,000
Asian/Pacific Islander	17.6%	14.2 - 21.1	189,000
American Indian/Alaskan Native	* 16.3%	3.4 - 29.1	N/A
<b>Education</b>			
Less than high school	12.9%	10.5 - 15.2	207,000
High school	14.8%	12.2 - 17.4	228,000
Some college or trade school	15.3%	13.2 - 17.4	299,000
College or post graduate degree	21.5%	19.6 - 23.4	400,000
<b>Federal Poverty Level</b>			
0-99% FPL	12.4%	10.2 - 14.5	205,000
100%-199% FPL	15.8%	13.1 - 18.5	257,000
200%-299% FPL	15.9%	13.1 - 18.8	147,000
300% or above FPL	18.9%	17.3 - 20.5	532,000
<b>Disability</b>			
Yes	15.8%	13.4 - 18.2	215,000
No	16.4%	15.1 - 17.6	925,000

- Standardized data tables
- Various health indicators
- Information on different domain levels



# Data Used in PH Practice

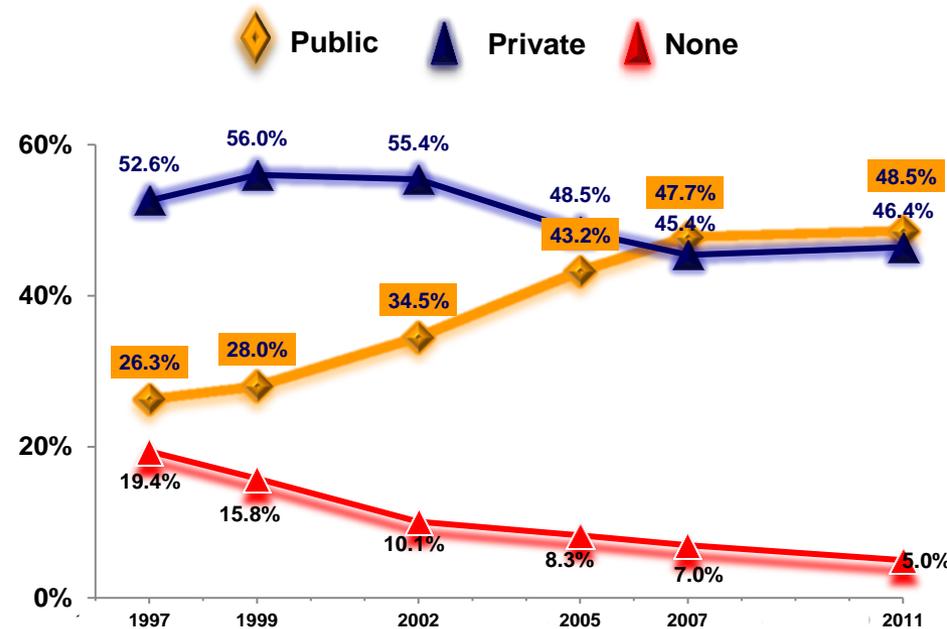
## – Example<sup>10</sup>:

- LACHS data identified areas with children eligible for public assistance, **but were not enrolled**

– DHS developed a needs based formula for funding allocation for outreach and enrollment by SPA

– ~**65,000** children got enrolled and insured

Child (0-17 years) Insurance Types, Los Angeles County 1997-2011



Source: Los Angeles County Health Survey 1997-2011



– Example 2<sup>o</sup>:

- Identified higher rates of **food insecurity** among households with children

- DPH and LA Collaborative for Healthy Active Children worked together to

- » Develop policy recommendations and actions
- » Eliminate the “reduced price” school lunch category in favor of a “free lunch program” for all low income students
- » Develop a **“Healthy Breakfast Campaign”** which includes
  - » Media campaign to promote healthy breakfast eating
  - » Teacher classroom tool kit about healthy breakfast
  - » Assistance for school districts to reduce child hunger and improve nutrition in schools



– Example 3:

• Choose Health LA



» LACHS Data was included in a CDC Community Transformation Grant application resulting in 5 year funding for programs aimed at

» Reducing youth access to tobacco products and exposure to secondhand smoke

» Improving nutrition and opportunities for physical activity

» Increasing access to high quality, clinical preventive services.

## – Example 3: ChooseHealthLA Media Campaigns



### ❖ Sugar Loaded Drinks

❖ Reducing Sugar Sweetened Beverage Consumption



### ❖ Choose Less Weigh Less

❖ Making the public more aware of portion control



– Example 3: ChooseHealthLA

- **Choose Health LA Restaurants Program**

- **Expand healthy food options for people who dine out**

- Gives restaurants an incentive to offer
  - » healthier food choices
  - » smaller portion size
  - » healthier children's meals



**CHOOSE HEALTH LA RESTAURANTS**

A partnership between the Los Angeles County Department of Public Health and local restaurants that gives customers the option to choose smaller portion sizes and healthier children's meals.

**A CHOOSE HEALTH LA RESTAURANT**

- Gives customers the option to choose a smaller portion size.
- Offers healthier children's meals, including fruits and vegetables, healthier beverages and non-deep fried foods.

Talk to the owner of your favorite restaurant about becoming a Choose Health LA Restaurant:  
[choosehealthla.com](http://choosehealthla.com)

Talk to us to suggest a restaurant:  
[choosehealthla@ph.lacounty.gov](mailto:choosehealthla@ph.lacounty.gov)  
213.351.7807

**CHOOSEHEALTHLA.COM**

County of Los Angeles Public Health Working For You. Made possible with funding from the Centers for Disease Control and Prevention and PHF 5 LA through the Los Angeles County Department of Public Health.



# Challenges

- **Increasingly expensive - \$\$\$\$\$\$\$\$\$**
- **Soft money funding!**
  - Funding **partners cannot guarantee funding** due uncertainty of their own funding sources and timing of grant cycles
- **Survey content limited** due to time
- **Response rates**
  - Declining nationwide and are lowest in urban areas like LAC
  - Cell-phone only population



# Conclusion

- **LACHS fulfills core functions of public health**
  - **Assessment**
    - Measuring population health
  - **Policy Development**
    - Establish strategic plans, policies, programs and guidelines
  - **Assurance**
    - Program evaluation and feedback
    - Increase access to care



# Acknowledgements

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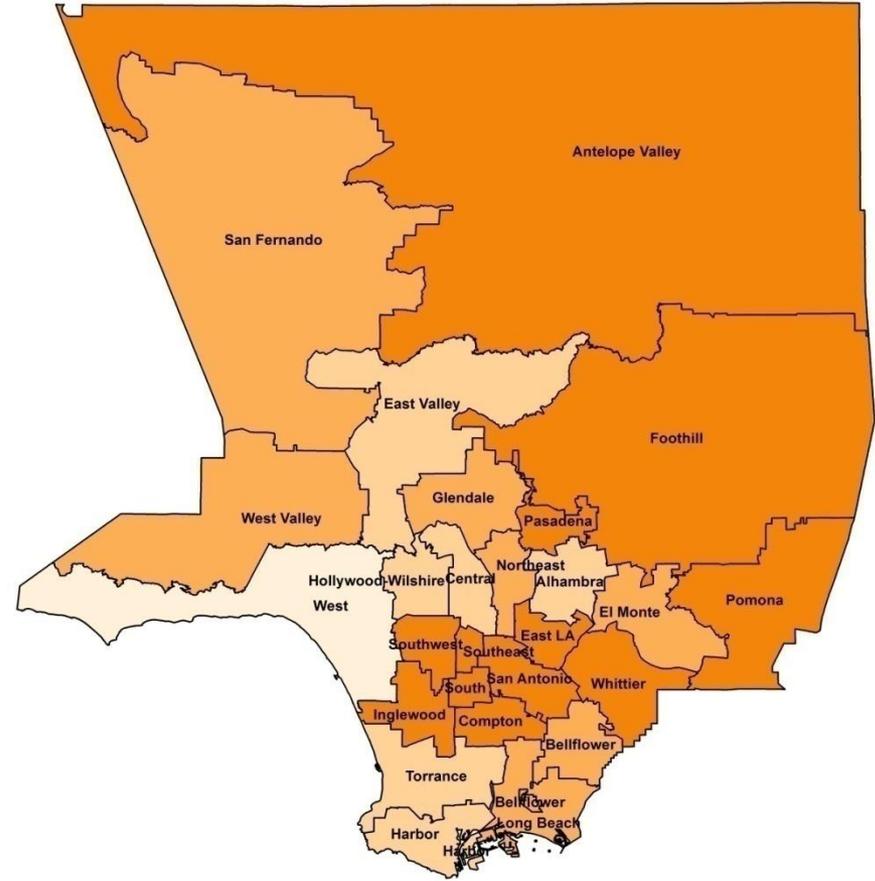
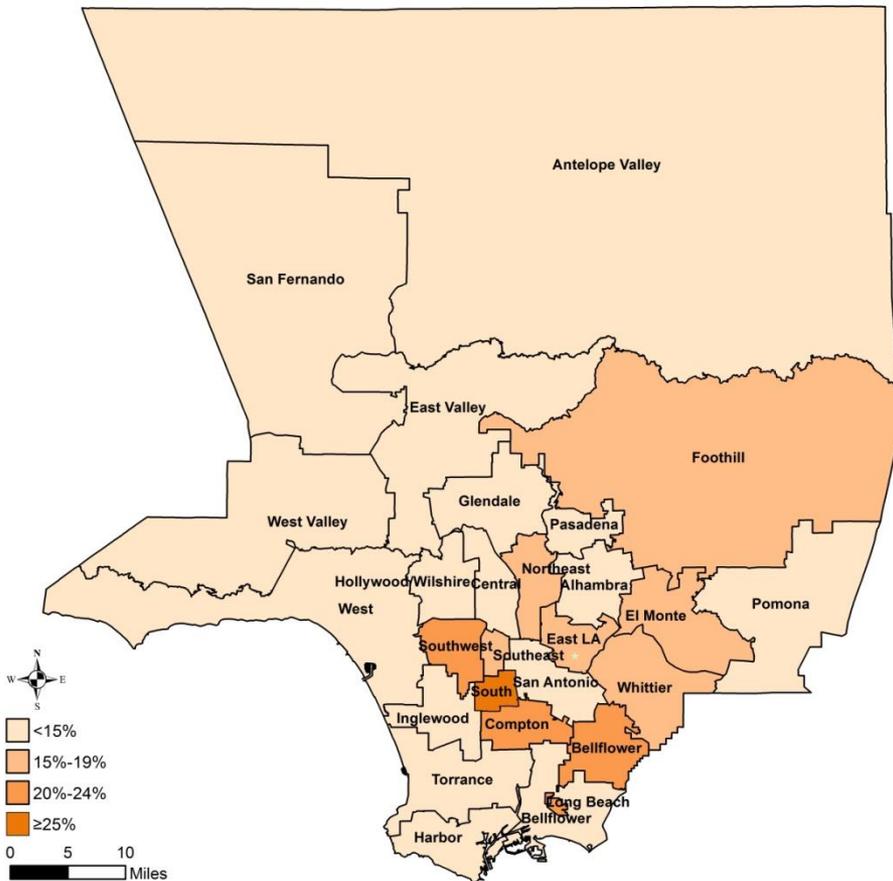
[www.publichealth.lacounty.gov/ha](http://www.publichealth.lacounty.gov/ha)



# Prevalence of Adult Obesity by Health District,<sup>§</sup> LACHS 1997 and 2011

1997

2011



\* The estimate is statistically unstable (relative standard error  $\geq 23\%$ ).

§ Health District boundaries were adjusted in 2010 following Census 2010 redistricting.

# Health Behaviors

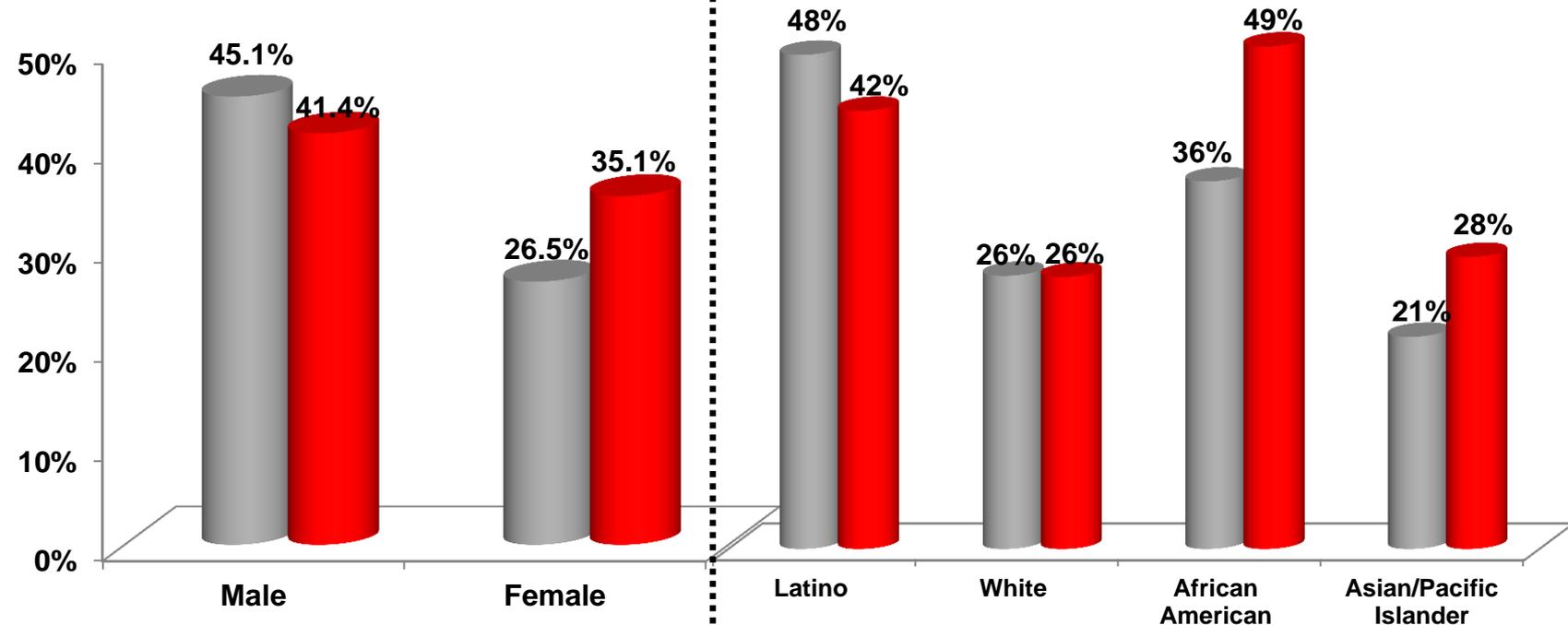
## Sugar Sweetened Beverage Consumption<sup>∞</sup> Among Adults & Children, 2011

■ Adults

■ Children

### By Gender

### By Race/Ethnicity



<sup>∞</sup>Drinks at least one soda or sugar sweetened beverage per day